REMARKS

Claims 37-80 are pending. Claim 80 has been added. No claims have been allowed.

Claim rejections – 35 U.S.C. §112, first paragraph.

Responsive to the Examiner's rejection of Claims 47, 62 and 63 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement based on the recitation of the term "functional material", Applicant has amended such claims to delete the term "functional material" in favor of a *Markush* group reciting chemical additives disclosed in the specification of the present application as filed at page 4, line 23 through page 5, line 1.

Responsive to the Examiner's rejection of Claims 37-79 under 35 U.S.C. §112, first paragraph, as failing to provide enablement for cleaning a surface or an item of equipment, Applicant respectfully directs the Examiner to the specification of the present application as filed at page 3, lines 19-23, which states that the present cleaning composition may be applied to "surfaces in food processing facilities, such as walls, floors and equipment." Disclosure of the application of the present cleaning composition to surfaces and/or equipment may also be found in the specification as filed at page 1, line 7, at page 2, line 23, and at page 6, lines 6-8 and 17-19, for example. Applicant respectfully submits that the claimed cleaning compositions would indeed clean any surface or item of equipment, and is not restricted in application to particular types of surfaces or to particular items of equipment. In particular, the present cleaning composition cleans and disinfects surfaces or items of equipment on contact, regardless of the type of surface or item of equipment, and therefore no undue experimentation would be needed by one of ordinary skill in the art to figure out what types of surfaces or items of equipment may be cleaned with the claimed cleaning compositions.

Claim rejections – 35 U.S.C. §112, second paragraph.

Applicant submits the following responses to the rejections of Claims 37-39 under 35 U.S.C. §112, second paragraph, as being indefinite:

With respect to the phrase "capable of raising" in Claims 37 and 57, Applicant has amended the claims to delete such language.

Applicant has amended Claim 37 to delete the terms "contents" and "the alkaline range".

Applicant has amended Claims 37, 57, and 71 to recite a step of "applying the cleaning composition" to "clean and disinfect the surface or item of equipment".

Responsive to the Examiner's objection regarding the phrases "low foaming", "moderately foaming" and "high foaming" in Claims 42-44, Applicant respectfully submits that such terms would be well understood by one of ordinary skill in the art. Specifically, attached hereto as **Exhibit 1** is an excerpt from Rosen, M.J., *Surfactants and Interfacial Phenomena*, John Wiley & Sons, Inc., pp. 209-218, which describes the Ross-Miles test method for measuring the foaming of surfactants and discusses various types of surfactants that have differing foaming characteristics. Also attached as **Exhibits 2 and 3** are excerpts from product information on Calfax® surfactants, available from Pilot Chemical Company, and Neodol® surfactants, available from Shell Chemical Company, in which these surfactants are referred to as "moderate foamers" and "moderately foaming", respectively. Other product information attached hereto as **Exhibits 4-6** include, respectively, a listing of "low foam" surfactants available from Dow, "Triton Nonionic Surfactant X-100" product information which mentions "moderate foaming" and "high-foaming" surfactants, and information on ammonium lauryl sulfate which is described as a "high foam" surfactant.

Applicant has amended Claims 45, 53, 54, and 68 to recite a weight percent, and respectfully submits that one of ordinary skill in the art would know that the concentration percents disclosed in the present specification are by weight rather than by volume. For example, a weight basis is specified in the specification as filed on page 6, lines 2-6 in the context of the amount of surfactant that may be present. Also, as percent by volume is dependent on conditions such as temperature and pressure while percent by weight is not and, because temperature, pressure, etc., are not set forth in the present specification, one of ordinary skill in the art would know that the disclosed concentration percents are by weight.

Applicant has deleted the term "functional material" in Claims 47, 62, and 73, as discussed above.

With respect to the Examiner's objection to the term "oxygen-stable" in Claims 48-52, 63-67, and 74-78, Applicant respectfully submits that such term would be well understood by one of ordinary skill in the art. Specifically, the term "oxygen stable surfactant" encompasses a surfactant

that is compatible with oxygen or, in the present case, is compatible with peroxide. In other words, the surfactants and the peroxide do not produce an explosive reaction, generate oxygen, hydrogen or other gases, or produce unwanted precipitates. For example, the Calfax® surfactants are discussed as being peroxide stable (**Exhibit 2**, page 4) and the "Dowfax" surfactants are discussed as having "excellent oxidative stability" (**Exhibit 7**, page 6).

With respect to the Examiner's objection to the term "derivative" of diphenyl sulfonate in Claims 52, 67, and 78, Applicant respectfully submits that such term would be well understood by one of ordinary skill in the art. For example, Calfax® surfactants and "Dowfax" surfactants are both diphenyl sulfonates and, referring to **Exhibits 2 and 7**, it is shown that the "R" groups of the base diphenyl sulfonate structures may vary, denoting that the base diphenyl sulfonate structures may have derivatives. The fact that a particular chemical molecule may have "derivatives", *i.e.*, that different molecules based on the same structure are each derivatives of that structure and are therefore related, is well known and understood in the art.

With respect to the Examiner's rejection of Claims 56, 70 and 79 as being indefinite in that same recite an "amine oxide", Applicant submits that the term "amine oxide" is properly recited in such claims, which depend from their respective independent claims. However, in order to expedite prosecution, Applicant has also amended Claims 56, 70 and 79 to recite the additional language "wherein at least one of the first and second containers includes a surfactant, said surfactant comprising at least one part amine oxide ...".

Claim rejections - 35 U.S.C. §102(b), U.S. Patent No. 5,739,327 to Arbogast et al.

The Examiner rejected Claims 37-51, 53-66, 68-77 and 79 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,739,327 to Arbogast et al. ("Arbogast et al. '327").

Arbogast et al. '327 discloses bleaching compositions which include (1) an active oxygen source, such as a peroxide of the type listed at col. 6, lines 45-52, and (2) a nitrile activator of the type set forth at col. 3, line 56 through col. 5, line 40. As discussed at col. 5, lines 30-40, when the peroxide and the nitrile activator are combined in alkaline conditions, they react to form peroxyimidic intermediates. The peroxyimidic intermediates in turn form peroxyimidic acid, which is the bleaching species. As discussed at col. 9, lines 17-42, in one embodiment, a dual delivery

system may be provided in which one container includes the nitrile activator, a surfactant, the active oxygen source, and an acidic buffer, and another container includes an alkaline solution.

Amended independent Claim 37 calls for a method of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit including a first container consisting essentially of a peroxide, and a second container consisting essentially of an alkaline component; and applying the peroxide and the alkaline components of the first and second containers to at least one of the surface and the item of equipment to clean and disinfect the surface or item of equipment.

Amended independent Claim 57 calls for a method of cleaning and disinfecting a surface or an item of equipment, including the step of providing a cleaning composition in dry form, consisting essentially of a peroxide and an alkaline component, and amended independent Claim 71 calls for a method of cleaning and disinfecting a surface or an item of equipment, including the step of providing a cleaning composition in dry form, the cleaning composition consisting essentially of a peroxide.

Arbogast et al. '327 fails to disclose a cleaning composition consisting essentially of a peroxide and an alkaline component, as called for in Claims 37 and 57, or a cleaning composition consisting essentially of a peroxide, as called for in Claim 71. In particular, the nitrile activator of the bleaching compositions disclosed in Arbogast et al. '327 is properly excluded by the transitional phrases "consisting essentially of" in independent Claims 37, 57, and 71.

As discussed above, the nitrile activators of the bleaching compositions of Arbogast et al. '327, which are also known in the art as "bleaching activators", react with the active oxygen source in alkaline conditions to form peroxyimidic intermediates which in turn form peroxyimidic acid. The peroxyimidic acid, a peracid, is a potent oxidant and is the actual bleaching species. Attached as **Exhibits 8 and 9** are, respectively, a web page from *www.scienceinthebox.com* and Lim, S-H et al., *Performance of a new cationic bleach activator on a hydrogen peroxide bleaching system*, (2004), which each discuss the role of bleach activators in reacting with peroxides in alkaline conditions to generate peracids, potent oxidants that are the actual bleaching species.

In contrast to the bleaching compositions of Arbogast et al. '327, which include a nitrile activator that reacts with an active oxygen source in alkaline conditions to generate a peracid that is the bleaching species, the cleaning compositions of independent Claims 37, 57, and 71 lack nitrile or other "bleaching activators", but rather clean and disinfect based on the release of oxygen by the peroxide.

Thus, Arbogast et al. '327 fails to disclose cleaning compositions consisting essentially of a peroxide and an alkaline component, as called for in Claims 37 and 57, or a cleaning composition consisting essentially of a peroxide, as called for in Claim 71, and one or ordinary skill in the art, in considering the overall teachings of Arbogast et al. '327 with no knowledge of the presently claimed invention, would have no incentive or motivation to modify the cleaning compositions of Arbogast et al. '327 to form a cleaning composition which does not include the nitrile activator disclosed in Arbogast et al. '327.

Also, the peroxide and detergent compositions used for comparative purposes in Examples 4 and 5 of Arbogast et al. '327 (*See* Tables 6 and 7, col. 17, line 55 and col. 18, line 40, respectively) are single phase aqueous solutions of peroxide and detergent, and therefore are not a *method* of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit in including a first container consisting essentially of a peroxide, and a second container consisting essentially of an alkaline component; and applying the peroxide and the alkaline components of the first and second containers to at least one of the surface and the item of equipment to clean and disinfect the surface or item of equipment, as called for in Claim 37, or a cleaning composition provided in dry form, as called for in Claims 57 and 71.

Thus, Applicant respectfully submits that independent Claims 37, 57, and 71, as well as the claims which depend therefrom, are not anticipated by, nor obvious in view of, Arbogast et al. '327.

Claim rejections - 35 U.S.C. §102(b), U.S. Patent No. 5,743,514 to Rees.

The Examiner rejected Claims 37-47 and 53-55 as being anticipated by U.S. Patent No. 5,743,514 to Rees ("Rees '514").

Rees '514 discloses a bleaching solution including (1) a peroxide, such as hydrogen peroxide, (2) an alkaline agent, such as an alkaline metal carbonate, and (3) a lactone of the type set forth at col. 4, line 41 through col. 5, line 6. The disclosure states that "the lactones employed in the inventive solution enhance the bleaching rate of hydrogen peroxide by formation of a peroxyacid of the ring opened lactone in a neutral to alkaline environment" which enhances "the bleaching rate of the inventive solution compared to a similar alkaline solution of hydrogen peroxide without the lactone". Notably, as discussed at col. 5, lines 23-37, the lactone and the peroxide are both more stable under acidic conditions such that the bleaching solution may be provided in two vessels, in which a first vessel includes the lactone and the peroxide, and a second vessel includes at least one alkaline agent (col. 6, lines 11-29).

Rees '514 fails to disclose a method of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit including a first container consisting essentially of a peroxide and a second container consisting essentially of an alkaline component, and applying the peroxide and alkaline component of the first and second containers to at least one surface or the item of equipment to clean and disinfect the surface or item of equipment, as called for in independent Claim 37. In particular, the lactones of the bleaching solutions of Rees '514 are properly excluded by the translational phrase "consisting essentially of" in independent Claim 37.

As discussed above, the lactone in the bleaching solutions of Rees '514 forms a peroxyacid of the ring opened lactone in a neutral to alkaline environment.

In contrast to the bleaching solutions of Rees '514, the cleaning composition claimed in independent Claim 37 is based on a peroxide and an alkaline component which do not include a lactone, but rather clean and disinfect based on the release of oxygen by the peroxide.

Thus, Rees '514 fails to disclose cleaning compositions consisting essentially of a peroxide and an alkaline component, as called for in Claim 37, and one or ordinary skill in the art, in considering the overall teachings of Rees '514 with no knowledge of the presently claimed invention, would have no incentive or motivation to modify the bleaching solutions of Rees '514 to form a cleaning composition which does not include the lactone disclosed in Rees '514.

The sodium bicarbonate/peroxide aqueous solutions used for comparative purposes in Comparative Examples 1 and 2 (col. 7, line 65 through col. 8, line 2 and col. 8, lines 36-39) of Rees '514 are single phase aqueous solutions and therefore not a *method* of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit in including a first container consisting essentially of a peroxide, and a second container consisting essentially of an alkaline component; and applying the peroxide and the alkaline components of the first and second containers to at least one of the surface and the item of equipment to clean and disinfect the surface or item of equipment, as called for in Claim 37.

Thus, Applicant respectfully submits that independent Claims 37, as well as the claims which depend therefrom, are not anticipated by, nor obvious in view of, Rees '514.

Claim rejections - 35 U.S.C. §102(b), U.S. Patent No. 6,391,840 to Thompson et al.

The Examiner rejected Claims 37-51 and 53-56 as being anticipated by U.S. Patent No. 6,391,840 to Thompson et al. ("Thompson et al. '840").

Thompson et al. '840 discloses bleaching compositions which may include two partial compositions, one of which containing an alkaline pH adjusting compound, and the other containing a peroxide and a bleach activator. Suitable peroxides, or "peroxygen bleach compounds", are set forth at col. 5, lines 39-67, and suitable bleach activator compounds, such as imines and oxaziridines, are set forth at col. 6, line 1 through col. 8, line 54.

Similar to Arbogast et al. '327, discussed above, Thompson et al. '840 fails to disclose a method of cleaning and disinfecting a surface or an item of equipment, including the steps of providing a cleaning kit including a first container consisting essentially of a peroxide and a second container consisting essentially of an alkaline component, and applying the peroxide and alkaline component of the first and second containers to at least one surface or the item of equipment to clean and disinfect the surface or item of equipment, as called for in independent Claim 37. In particular, the bleach activators of the bleaching compositions of Thompson et al. '840 are properly excluded by the translational phrase "consisting essentially of" in independent Claim 37.

Similar to Arbogast et al. '327, discussed above, the bleach activators in the bleaching compositions of Thompson et al. '840 react with the peroxide in alkaline conditions to form a peracid which is the actual bleaching species (*See* **Exhibits 8 and 9**).

In contrast to the bleaching solutions of Thompson et al. '840, the cleaning composition claimed in independent Claim 37 is based on a peroxide and an alkaline component which do not include a bleach activator to generate peracids, but rather clean and disinfect based on the release of oxygen by the peroxide.

Thus, Thompson et al. '840 fails to disclose cleaning compositions consisting essentially of a peroxide and an alkaline component, as called for in Claim 37, and one or ordinary skill in the art, in considering the overall teachings of Thompson et al. '840 with no knowledge of the presently claimed invention, would have no incentive or motivation to modify the bleaching solutions of Thompson et al. '840 to form a cleaning composition which does not include the bleach activators disclosed in Thompson et al. '840.

Thus, Applicant respectfully submits that independent Claim 37, as well as the claims which depend therefrom, are not anticipated by, nor obvious in view of, Thompson et al. '840.

Claim rejections - 35 U.S.C. §103.

The Examiner rejected Claims 52, 67 and 78 under 35 U.S.C. §103(a) as being obvious in view Arbogast et al. '327, and rejected Claim 52 as being obvious over Thompson et al. '840.

Applicant submits that, because independent Claims 37, 57, and 71 are not anticipated by, nor are obvious in view of, Arbogast et al. '327 or Thompson et al. '840, Claims 52, 67, and 78 which depend therefrom, respectively, are also not anticipated by, nor are obvious in view of, Arbogast et al. '327 or Thompson et al. '840.

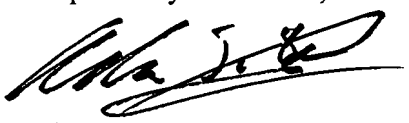
Conclusion.

It is believed that the above represents a complete response to the Official Action and reconsideration is requested. Specifically, Applicant respectfully submits that the application is in condition for allowance and respectfully requests allowance thereof.

In the event Applicant has overlooked the need for an additional extension of time, payment of fee, or additional payment of fee, Applicant hereby petitions therefore and authorizes that any charges be made to Deposit Account No. 02-0385, Baker & Daniels.

Should the Examiner have any further questions regarding any of the foregoing, the Examiner is respectfully invited to telephone the undersigned at (260) 424-8000.

Respectfully submitted,



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